

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

29. (currently amended) A semiconductor device comprising:

a substrate having a gate electrode formed at an upper portion of the substrate, a source and a drain formed at a lower portion of both sides of said gate electrode; ~~and~~

an etch stop layer formed on the substrate;

an undoped insulating layer interposed formed on the etch stop layer;

and

an insulating layer continuously formed on the substrate, the etch stop layer, the undoped insulating layer, and the gate electrode, the insulating layer being formed by (a) flowing the oxidizing gas at the oxidizing gas flow rate, (b) flowing the first carrier gas at the first carrier gas flow rate while carrying a first impurity including boron flowing at a first impurity flow rate, (c) flowing the second carrier gas at the second carrier gas flow rate while carrying a second impurity including phosphorus flowing at a second impurity flow rate, and (d) flowing a silicon source material at a silicon source flow rate,

wherein, for the insulating layer composition, a ratio of the oxidizing gas flow rate, the first carrier gas flow rate, the second carrier gas flow rate, the silicon source flow rate, the first impurity flow rate, and the second impurity flow rate is about 2.00 - 2.50 : 0.70 - 0.95 : 1 : 0.15 - 0.25 : 0.040 - 0.045 : 0.013 - 0.014, and wherein a flow rate of the second carrier gas is at least 4,000 sccm.

30. (original) The semiconductor device as claimed in claim 29, wherein the oxidizing gas is one selected from a group consisting of oxygen gas, ozone gas and a mixture thereof, the first carrier gas is a nitrogen gas, the second carrier gas is a helium gas, the silicon source material is tetraethylorthosilicate (TEOS), the first impurity is one selected from a group consisting of triethylborate (TEB), trimethylborate (TMB), and a mixture thereof, and the second impurity is one selected from a group consisting of triethylphosphate (TEPO), trimethylphosphate (TMPO) and a mixture thereof.

31. (cancelled)

32. (cancelled)

33. (currently amended) The semiconductor device as claimed in claim ~~32~~ 29, wherein, for the undoped insulating layer composition, the ratio of the

oxidizing gas flow rate, the first carrier gas flow rate, the second carrier gas flow rate, and the silicon source flow rate is about 2.00 - 2.50 : 0.70 - 0.95 : 1 : 0.15 - 0.25.

34. (new) The semiconductor device as claimed in claim 29, wherein a thickness of the etch stop layer is about 60-150 Å.

35. (new) The semiconductor device as claimed in claim 29, wherein the insulating layer is a borophosphosilicate glass layer.

36. (new) The semiconductor device as claimed in claim 29, wherein the insulating layer contains about 5.5% by weight of boron and about 3.0% weight of phosphorus.

37. (new) The semiconductor device as claimed in claim 29, wherein a thickness of the insulating layer is about 9,500 Å.